

# TRAITÉ DE COOPÉRATION EN MATIÈRE DE BREVETS

## PCT

### RAPPORT PRÉLIMINAIRE INTERNATIONAL SUR LA BREVETABILITÉ (chapitre I du Traité de coopération en matière de brevets)

(règle 44bis du PCT)

Référence du dossier du déposant ou du mandataire FR2006/003	<b>POUR SUITE À DONNER</b>		Voir le point 4 ci-dessous
Demande internationale no. PCT/FR2007/000051	Date du dépôt international ( <i>jour/mois/année</i> ) 12 January 2007 (12.01.2007)	Date de priorité ( <i>jour/mois/année</i> ) 13 January 2006 (13.01.2006)	
Classification internationale des brevets (8 <sup>e</sup> édition, sauf indication d'une #dition ant#rieure) Voir les informations pertinentes dans le formulaire PCT/ISA/237			
Déposant SANOFI-AVENTIS			

1.	Le présent rapport préliminaire international sur la brevetabilité (chapitre I) est établi par le Bureau international au nom de l'administration chargée de la recherche internationale selon la règle 44bis.1.a).																								
2.	Ce RAPPORT comprend un total de 7 feuilles, y compris la présente feuille de couverture.  Dans les feuilles jointes, toute référence à l'opinion écrite de l'administration chargée de la recherche internationale doit être entendue, à la place, comme une référence au rapport préliminaire international sur la brevetabilité (chapitre I).																								
3.	Le présent rapport contient des indications relatives aux points suivants : <table style="width: 100%; margin-top: 10px;"> <tr> <td style="width: 10%; text-align: center;"><input checked="" type="checkbox"/></td> <td style="width: 30%;">Cadre n° I</td> <td style="width: 60%;">Base de l'opinion</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Cadre n° II</td> <td>Priorité</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Cadre n° III</td> <td>Absence de formulation d'opinion quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Cadre n° IV</td> <td>Absence d'unité de l'invention</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Cadre n° V</td> <td>Déclaration motivée selon l'article 35.2) quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle; citations et explications à l'appui de cette déclaration</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Cadre n° VI</td> <td>Certains documents cités</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Cadre n° VII</td> <td>Certaines irrégularités relevées dans la demande internationale</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Cadre n° VIII</td> <td>Certaines observations relatives à la demande internationale</td> </tr> </table>	<input checked="" type="checkbox"/>	Cadre n° I	Base de l'opinion	<input type="checkbox"/>	Cadre n° II	Priorité	<input checked="" type="checkbox"/>	Cadre n° III	Absence de formulation d'opinion quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle	<input type="checkbox"/>	Cadre n° IV	Absence d'unité de l'invention	<input checked="" type="checkbox"/>	Cadre n° V	Déclaration motivée selon l'article 35.2) quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle; citations et explications à l'appui de cette déclaration	<input type="checkbox"/>	Cadre n° VI	Certains documents cités	<input type="checkbox"/>	Cadre n° VII	Certaines irrégularités relevées dans la demande internationale	<input type="checkbox"/>	Cadre n° VIII	Certaines observations relatives à la demande internationale
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4.	Le Bureau international communiquera le présent rapport aux offices désignés conformément aux règles 44bis.3.c) et 93bis.1 mais pas avant l'expiration du délai de 30 mois à compter de la date de priorité (règle 44bis.2), sauf si le déposant a présenté une requête expresse à cet égard en vertu de l'article 23.2).																								

Bureau international de l'OMPI 34, chemin des Colombettes 1211 Geneva 20, Switzerland  no de télécopieur +41 22 338 82 70	Date d'établissement du présent rapport 09 September 2008 (09.09.2008)  Fonctionnaire autorisé  <div style="text-align: center; font-weight: bold;">Beate Giffo-Schmitt</div>  e-mail: pt03.pct@wipo.int
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# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

**TRANSLATION**  
**PCT**

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing See form PCT/ISA/210  
(day/month/year)

Applicant's or agent's file reference  
**FR2006/003**

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
**PCT/FR2007/000051**

International filing date (day/month/year)  
**12.01.2007**

Priority date (day/month/year)  
**13.01.2006**

International Patent Classification (IPC) or both national classification and IPC  
**A61K31/435 A61P9/00 A61P11/00 C07D519/00**

Applicant  
**SANOFI-AVENTIS**

1. This opinion contains indications relating to the following items:

- |                                     |              |  |
|-------------------------------------|--------------|--|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the opinion   |
| <input type="checkbox"/>            | Box No. II   | Priority   |
| <input checked="" type="checkbox"/> | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability   |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention   |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/>            | Box No. VI   | Certain documents cited  |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application   |
| <input type="checkbox"/>            | Box No. VIII | Certain observations on the international application  |

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/EP

Date of completion of this opinion

Authorized officer

Facsimile No.

Telephone No.

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/FR2007/000051

**Box No. I**      **Basis of this opinion**

1. With regard to the **language**, this opinion has been established on the basis of:
  - ☒ the international application in the language in which it was filed
  - ☐ the translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (Rule 12.3(a) and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material
    - ☐ on paper
    - ☐ in electronic form
  - c. time of filing/furnishing
    - ☐ contained in the international application as filed
    - ☐ filed together with the international application in electronic form
    - ☐ furnished subsequently to this Authority for the purposes of search
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

WRITTEN OPINION OF THE  
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Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application
- ☒ claims Nos. 1-3 (in part), 15-21 (in part)

because:

- ☐ the said international application, or the said claims Nos. \_\_\_\_\_ relate to the following subject matter which does not require an international search (*specify*):

- ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. \_\_\_\_\_ are so unclear that no meaningful opinion could be formed (*specify*):

- ☐ the claims, or said claims Nos. \_\_\_\_\_ are so inadequately supported by the description that no meaningful opinion could be formed (*specify*):

- ☒ no international search report has been established for said claims Nos. 1-13 (in part), 15-21 (in part)
- ☐ a meaningful opinion could not be formed without the sequence listing; the applicant did not, within the prescribed time limit:
- ☐ furnish a sequence listing on paper complying with the standard provided for in Annex C of the Administrative Instructions, and such listing was not available to the International Searching Authority in a form and manner acceptable to it.
- ☐ furnish a sequence listing in electronic form complying with the standard provided for in Annex C of the Administrative Instructions, and such listing was not available to the International Searching Authority in a form and manner acceptable to it.
- ☐ pay the required late furnishing fee for the furnishing of a sequence listing in response to an invitation under Rules 13ter.1(a) or (b).
- ☐ a meaningful opinion could not be formed without the tables related to the sequence listings; the applicant did not, within the prescribed time limit, furnish such tables in electronic form complying with the technical requirements provided for in Annex C-bis of the Administrative Instructions, and such tables were not available to the International Searching Authority in a form and manner acceptable to it.
- ☐ the tables related to the nucleotide and/or amino acid sequence listing, if in electronic form only, do not comply with the technical requirements provided for in Annex C-bis of the Administrative Instructions.
- ☒ See Supplemental Box for further details.

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Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
<b>1. Statement</b>			
Novelty (N)	Claims	1-22	YES
	Claims		NO
Inventive step (IS)	Claims	1-22	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-22	YES
	Claims		NO
<b>2. Citations and explanations:</b>			
<p>D1: WO 03/084956 A (SANOFI-SYNTHELABO; BADORC, ALAIN; BONO, FRANCOISE; BORDES, MARIE-FRANC) 16 October 2003 (2003-10-16) cited in the application</p> <p>D2: WO 2005/028476 A (SANOFI-AVENTIS; ALCOUFFE, CHANTAL; BADORC, ALAIN; BONO, FRANCOISE; BOR) 31 March 2005 (2005-03-31) cited in the application</p> <p>The present application refers to agonist compounds of the FGF receptors corresponding to the general formula <math>M_1-L-M_2</math> (claims 1-14 and 22), a pharmaceutical composition comprising an <math>M_1-L-M_2</math> compound (claims 15-16), the use of these compounds in the preparation of a medication (claims 17-18), and a method of preparing an <math>M_1-L-M_2</math> compound (claims 19-21).</p> <p>The following examination is limited to the searched subject matter (see III).</p> <p>The compounds of the present application differ from the compounds described in D1 and D2 (also described as FGF inhibitors) in that they contain two groups of indolizine linked together by a linker group L, whereas the compounds of D1 and D2 only contain one indolizine group.</p>			

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INTERNATIONAL SEARCHING AUTHORITY

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Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

Consequently, the subject matter of claims 1-22 is novel  
(PCT Article 33(3)).

Documents D1 and D2 are considered to be the prior art  
closest to the subject matter of the searched claims.

The problem addressed by the present invention can  
therefore be considered that of providing other compounds  
that can be used as FGF receptor inhibitors.

This problem has obviously been solved based on the  
description.

The solution proposed in claims 1-22 of the present  
application is considered inventive (PCT Article 33(3))  
because the  $M_1$ -L- $M_2$  compounds represent a class of  
compounds having a pharmaceutical action that is not yet  
known for this action.

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: III

The present claims 1-13 and 15-21 refer to a very broad range of compounds and their production and use. Support pursuant to PCT Article 6 and/or a disclosure pursuant to PCT Article 5, however, can only be found for a very limited number of these claimed compounds. In the present case, the claims are so lacking of support and the disclosure of the invention in the description is so limited that a significant search covering the entire claimed spectrum is impossible.

Consequently, the search was limited to the parts of the claims that are supported and disclosed, that is, the parts referring to the compounds of claim 1, of which:

the monomer units M1 and M2 are defined as in claim 3 and the linker group L is defined as in claim 14;

as well as pharmaceutical compositions containing these compounds and the use of these compounds to prepare a medication.